R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

SUPPORT FOR CLAIM AMENDMENTS

Support for the amendments to the claims can be found in the drawings as originally filed, for example, on FIGS. 6-10 and in the specification as originally filed, for example, on page 1, line 10 through page 2, line 16 and on page 10, line 15 through page 12, line 18. As such, no new matter has been added.

IN THE DRAWINGS

Applicant herewith submits corrected drawings as approved by the Examiner (see page 2, paragraph no. 2 of the Office Action).

CLAIM OBJECTIONS

The objection to claim 20 has been obviated by appropriate amendment and should be withdrawn.

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CLAIM REJECTIONS UNDER 35 U.S.C. §102

The rejection of claims 1-8, 10-13 and 14-20 under 35 U.S.C. §102(e) as being anticipated by Sharpe-Geisler '466 has been obviated by appropriate amendment and should be withdrawn.

Sharpe-Geisler is directed to circuitry to provide fast carry (Title).

In contrast, the presently claimed invention (claim 1) provides a plurality of product term input circuits each configured (i) to receive an input signal and (ii) to generate one of a plurality of product term inputs, where each of the plurality of product term input circuits comprises (i) a first memory cell directly connected to an input terminal of a first transmission gate and (ii) a second memory cell directly connected to an input terminal of a second transmission gate. Sharpe-Geisler does not disclose or suggest each and every element of the presently claimed invention, arranged as in the present claim 1. As such, claim 1 is fully patentable over the cited reference and the rejection should be withdrawn.

Specifically, assuming, *arguendo*, (i) the memory cells of the LUT 502 of Sharpe-Geisler are similar to the presently claimed first memory cell, (ii) the memory cells of the LUT 504 of Sharpe-Geisler are similar to the presently claimed second memory cell and (iii) the pass gates 700, 800, 702 and 802 in FIG. 8 of Sharpe-

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Geisler are similar to the presently claimed first and second transmission gates (as suggested on page 3, lines 1-5 of the Office Action and for which Applicant's representative does not necessarily agree), Sharpe-Geisler does not disclose or suggest (i) a first memory cell directly connected to an input terminal of a first transmission gate and (ii) a second memory cell directly connected to an input terminal of a second transmission gate, as presently claimed. In particular, the memory cells of the LUTs 502 and 504 of Sharpe-Geisler are connected to multiplexers (see FIG. 1 of Sharpe-Geisler) and, therefore, are NOT connected **directly** to an input terminal of the pass gates 700, 800, 702 and 802.

In contrast to Sharpe-Geisler, each of the plurality of product term input circuits, as presently claimed, comprises (i) a first memory cell **directly** connected to an input terminal of a first transmission gate and (ii) a second memory cell **directly** connected to an input terminal of a second transmission gate. Because the memory cells of the LUTs 502 and 504 of Sharpe-Geisler are NOT connected **directly** to an input terminal of the pass gates 700, 800, 702 and 802, Sharpe-Geisler does not disclose or suggest each and every element of the presently claimed invention, arranged as in the present claim 1. As such, claim 1 is fully patentable over the cited reference and the rejection should be withdrawn.

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Furthermore, the presently claimed invention (claim 1) provides an AND plane configured to generate a product term in response to a plurality of product term inputs. Claims 6 an 18 include similar limitations. The Office Action admits that Sharpe-Geisler does not disclose or suggest an AND plane, as presently claimed (see page 10, lines 10-16 of the Office Action). Therefore, Sharpe-Geisler does not disclose or suggest each and every element of the presently claimed invention, arranged as in the present claims. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claims 2-5, 7-17 and 19-20 depend, either directly or indirectly, from claims 1, 6 or 18 which are believed to be allowable. As such, the presently claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claim 9 under 35 U.S.C. §103(a) as being unpatentable over Sharpe-Geisler in view of Bauer and claim 14 under 35 U.S.C. §103(a) as being unpatentable over Sharpe-Geisler in view of Silver have been obviated by appropriate amendment and should be withdrawn.

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As shown above, Sharpe-Geisler does not teach or suggest each and every element of the presently claimed invention. Neither Bauer nor Silver cure the deficiencies of Sharpe-Geisler. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Specifically, Bauer is directed to look-up tables which double as shift registers (Title). Bauer is silent regarding a product term input circuit comprising a first memory cell directly connected to an input terminal of a first transmission gate and a second memory cell directly connected to an input terminal of a second transmission gate as presently claimed. Bauer is also silent regarding an AND plane, as presently claimed. Therefore, the combination of Sharpe-Geisler and Bauer does not teach or suggest each and every element of the presently claimed invention.

Silver is directed to a method for reducing switching noise in a programmable logic device (Title). Silver is silent regarding a product term input circuit comprising a first memory cell directly connected to an input terminal of a first transmission gate and a second memory cell directly connected to an input terminal of a second transmission gate, as presently claimed. As such, Silver does not cure the deficiencies of Sharpe-Geisler, either alone or in combination with Bauer. Therefore, the combination of Sharpe-Geisler, Bauer and Silver does not teach or

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suggest each and every element of the presently claimed invention. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the Office Action fails to meet the Office's burden of factually supporting a *prima facie* conclusion of obviousness (MPEP §2142). When the Office does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of non-obviousness (MPEP §2142). Specifically, the conclusory statement on page 11, line 4-8 of the Office Action that "it would have been obvious at the time the invention was made to a person having ordinary skill in the art to implement the one or more apparatus of Sharpe-Geisler in a CPLD including an AND array . . . because it would provide design flexibility that is inherent in a programmable logic device and reduction in the cost and size of the IC" does not adequately address the issue of motivation (See *In re Lee*). The factual inquiry into motivation is material to patentability and cannot be resolved on subjective belief and unknown authority (*In re Lee*). It is improper, in determining whether a person of ordinary skill would have been led to the combination of references, to simply "[use] that which the inventor taught against its teacher". (*In re Lee* quoting *W.L. Gore v. Garlock, Inc.*).

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The Office Action fails to provide any objective evidence or convincing line of reasoning to support the conclusory statement and explain how the combination of the AND plane of Silver and the look-up tables and multiplexers of Sharpe-Geisler would reduce the cost or size of an IC. Clearly, ADDING the look-up tables and multiplexers of Sharpe-Geisler to the AND plane of Silver would necessarily increase the cost and size of the IC. Therefore, the Office Action fails to meet the Office's burden to factually support a *prima facie* conclusion of obviousness (MPEP §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 9 and 14 depend from claim 6 which is believed to be allowable. As such, the presently pending claims 9 and 14 are fully patentable over the cited references and the rejection should be withdrawn.

Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

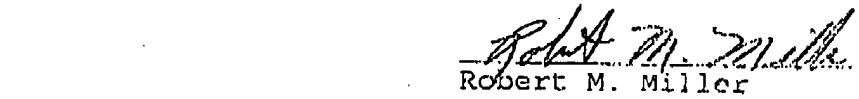
The Examiner is respectfully invited to call the Applicant's representative should it be deemed beneficial to further advance prosecution of the application.

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If any additional fees are due, please charge our office Account No. 50-0541.

Respectfully submitted,

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